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PATENT APPLICATION
Docket No.: OSA96-01

#6

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Clifford Heath, Graeme Port, Steven Klos, and
Graeme Greenhill

Serial No.: 08/707,622

Group:

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Examiner: ~~Unknown~~

For: SYSTEMS AND METHODS FOR AUTOMATIC APPLICATION
VERSION UPGRADING AND MAINTENANCE

PETITION TO MAKE SPECIAL

Assistant Commissioner
of Patents
Washington, D.C. 20231

Sir:

This is a petition to make the above application special as permitted under 37 CFR 102(d). Authorization to charge Attorney Deposit Account 08-0380 for the petition fee of \$130 as set forth in 37 CFR 1.17(i) is hereby authorized. One duplicate copy of this Petition is enclosed.

Applicant believes that all claims are directed to a single invention. However, if the Patent Office determines that all the claims presented are not obviously directed to a single invention, Applicant elects Claim 1 without traverse.

A first pre-examination search of issued U.S. patents and published articles had been conducted prior to filing the application. The references deemed most closely related to the subject matter were submitted in the IDS filed on March 18, 1997. As no decision had yet been made to file a Petition to Make Special, the search strategy was not saved. Therefore we have conducted a second search using the Patent Office's and IBM's on-line (Web-based) patent search engines. In addition, we utilized NERAC, a data base search service. As a result of this second search, one additional reference has been found (the Stupek patent) and a supplemental IDS is being filed accordingly.

Our search strategy included terms such as "software" in combination with variations of "upgrade", "update", and "version management", as well as "network" and "internet". We also searched class 395, subclasses 619, 703, and 712.

We now present a discussion of the present application and the references.

The present invention teaches a method of updating components of an application program on a client by maintaining the components and a catalog identifying the component versions on a server. At a time determined by certain parameters, the client requests the catalog from the server over a network such as the Internet. The server responds by downloading the catalog to the client which compares the version information against its currently installed versions of the components. Components which do not match the corresponding version identification in the catalog are updated by having the client request the needed components from the server and having the server respond by distributing the requested components to the client. With this invention, current components are maintained on the client

without unnecessary downloading of components which are unchanged.

In the present invention, all processing is performed on the client system, with the server doing nothing more than responding to industry-standard file transfer requests. This allows any of the more than 20 million Web servers to be used for application distribution and updating. The methods of the prior art discussed below require processing to be performed on the server, and most require cooperative processing on both client and server, which is more complex to implement and manage. Thus, the present invention is far easier to implement and far less prone to error than previous methods.

U.S. Patent No. 4,714,992 (Gladney et al.) teaches a system for managing versions of "data objects" in a distributed system. The data objects are maintained in a "source location", which distributes them upon request to "replica locations", or clients. The source location apparently maintains a list of replica locations (Table USERIDS listed in Table 1, Col. 5 lines 65-68), and a list (table BADMESSAGES) of obsolete messages or data objects for each replica location. Col. 13 lines 7-12. Thus for every replica location/client, the source location is required to do the housekeeping work and determine what versions of an object a particular client should have. This would be unwieldy for use on the Internet, where there may be tens of thousands of clients. In addition, whereas Gladney manages data objects, the present invention's purpose is to manage software component versions. The present invention does not need to maintain separate entries for each client; instead, it maintains a catalog of current and obsolete components and downloads the catalog to a client so that the client itself can decide what is needed.

U.S. Patent No. 5,005,122 (Griffin et al.) teaches a system of software distribution over a network using master and slave software distribution servers in conjunction with a management server, but does not teach a method of component version control.

U.S. Patent No. 5,008,814 (Mathur) teaches a method in which system software is updated in distributed nodes (clients) and tested. Nodes having failures are restored to the prior version. This is particularly important with system software, as a computer will not operate correctly without valid system software and ordinarily might not be able to correct itself. The Mathur patent deals with this issue. Distribution from a source node to distribution nodes is initiated by a "distribution command" entered by an operator at an operator node. Col. 5, lines 1-6. The present invention, on the other hand, deals with software component version management and distribution. Distribution is automatic and initiated by a client upon certain conditions.

U.S. Patent No. 5,019,963 (Alderson et al.) teaches a method in which a local processor (e.g. a PC) contacts a host and provides information to the host as to what computer program and data files it is about to use. The host determines what the latest levels should be, possibly for that particular local processor, and downloads them to the local processor if necessary. (Col. 2 lines 18-39). In Alderson, the host queries the local processor as to what the local processor has, and the local processor responds to the host, identifying what type of workstation it is and what is installed. Col. 4 lines 34-44. By contrast, with the present invention, the client determines the need for new versions.

U.S. Patent No. 5,155,847 (Kirouac et al.) teaches a method and apparatus in which a client contacts a host (central system). Unlike the present invention, however, the host requests version

information from the client, which supplies the information, and the host decides what software patches to send to the client.
Col 10 lines 50-62.

U.S. Patent No. 5,247,683 (Holmes et al.) teaches a method of installing and building software using configuration build files. While the build may be over a network, this patent does not disclose a means of version management.

U.S. Patent No. 5,448,727 (Annevelink) teaches a method of optimizing object-oriented databases and is not on point.

U.S. Patent No. 5,495,610 (Shing et al.) teaches a software distribution system for building and distributing software releases. Determination of what nodes (clients) need to be updated is done centrally (Col. 22 line 29 - Col 23 line 36) and not by the nodes individually as is done in the present application.

U.S. Patent No. 5,555,416 (Owens et al.) teaches a method of installing software. Installation may be remote, but Owens does not teach version control.

U.S. Patent No. 5,581,764 (Fitzgerald et al.) teaches a system of software updating in which lists (schema) of software are generated for each node listing which software should be on a particular node (the "should have" or SH list). The SH list is compared with an "already have" (AH) and the result is a "need" list. This is different from the present invention in which a catalog is maintained in a server and requested by a client.

U.S. Patent No. 5,586,304 (Stupek et al.) discloses a method of upgrading computer systems but does not disclose the catalog downloading method of the present invention.

The Kirtland article, "Safe Web Surfing with the Internet Component Download Service", discloses the Internet Component Download service which is apparently software used in downloading applications via the World Wide Web (the Web). However, this system does not appear to provide for a centrally held catalog which is downloaded to individual clients upon request.

In summary, none of the above patents or articles disclose the method of the present invention in which a catalog is downloaded to clients, and clients determine whether new versions should be requested. Furthermore, we have offered an election without traverse should the Examiner determine that the claims are not directed to a single invention. We therefore ask that this Petition to Make Special the present application be granted.

Respectfully submitted,



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